RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/724,598_

Source: _1FWO_

Date Processed by STIC: _09-28-2005_

ENTERED

RAW SEQUENCE LISTING   DATE: 09/28/2005
PATENT APPLICATION: US/10/724,598   TIME: 10:47:26

Input Set : **N:\Crf3\RULE60\10724598.raw.txt**
Output Set: **N:\CRF4\09282005\J724598.raw**

SEQUENCE LISTING

```
  3 (1) GENERAL INFORMATION:
  5      (i) APPLICANT: BLANCHE, FRANCIS; CAMERON, BEATRICE; CROUZET,
  6                    JOEL;DEBUSSCHE, LAURENT; LEVCY SCHIL, SOPHIE;
  7                    THIBAUT, DENIS
  9     (ii) TITLE OF INVENTION: POLYPEPTIDES INVOLVED IN THE
 10                             BIOSYNTHESIS OF COBALAMINS AND/OR COBAMIDES, DNA
SEQUENCES
 11                             CODING FOR THESE POLYPEPTIDES, PREPARATION METHOD AND
THEIR
 12                             USE.
 14    (iii) NUMBER OF SEQUENCES: 60
 16     (iv) CORRESPONDENCE ADDRESS:
 17          (A) ADDRESSEE: MORGAN & FINNEGAN
 18          (B) STREET: 555 13TH STREET, N.W.
 19          (C) CITY: WASHINGTON
 20          (D) STATE: DISTRICT OF COLUMBIA
 21          (E) COUNTRY: USA
 22          (F) ZIP: 20004
 24      (v) COMPUTER READABLE FORM:
 25          (A) MEDIUM TYPE: FLOPPY DISK
 26          (B) COMPUTER: IBM PC COMPATIBLE
 27          (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 28          (D) SOFTWARE: WORDPERFECT 5.1
 30     (vi) CURRENT APPLICATION DATA:
C--> 31          (A) APPLICATION NUMBER: US/10/724,598
C--> 32          (B) FILING DATE: 01-Dec-2003
 33          (C) CLASSIFICATION: 435
 35    (vii) PRIOR APPLICATION DATA:
W--> 36          (A) APPLICATION NUMBER: 07/916,151
 37          (B) FILING DATE: 14-SEP-1992
W--> 38          (A) APPLICATION NUMBER: PCT/FR91/00054
 39          (B) FILING DATE: 30-JAN-1991
 41   (viii) ATTORNEY/AGENT INFORMATION:
 42          (A) NAME: F. F. CALVETTI
 43          (B) REGISTRATION NUMBER: 28,557
 44          (C) REFERENCE/DOCKET NUMBER: 1290-7213
 46     (ix) TELECOMMUNICATION INFORMATION:
 47          (A) TELEPHONE: (202) 857-7887
 48          (B) TELEFAX: (202) 857-7929
 50 (2) INFORMATION FOR SEQ ID NO: 1:
 52      (i) SEQUENCE CHARACTERISTICS:
 53          (A) LENGTH: 5398 base pairs
 54          (B) TYPE: Nucleic acid
```

55   (C) STRANDEDNESS: Double

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```
    56          (D) TOPOLOGY: Unknown
    58     (ii) MOLECULE TYPE: cDNA
    60    (iii) HYPOTHETICAL: No
C--> 62     (vi) ORIGINAL SOURCE:
    63          (A) ORGANISM: Pseudomonas denitrificans
    64          (B) STRAIN:
    70          (C) INDIVIDUAL ISOLATE:
    71          (D) DEVELOPMENTAL STAGE:
    72          (E) HAPLOTYPE:
    73          (F) TISSUE TYPE:
    74          (G) CELL TYPE:
    75          (H) CELL LINE:
    76          (I) ORGANELLE:
    78     (ix) FEATURE:
    79          (A) NAME/KEY:
    80          (B) LOCATION:
    81          (C) IDENTIFICATION METHOD:
    82          (D) OTHER INFORMATION:Nucleotide Sequence of the 5' to 3'
    83 strand from the 5398 bp ClaI-HindIII-HindIII-HindIII
    84 fragment of Pseudomonas denitrificans
    87     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
    90 GGGCTGCAGG TCGACTCTAG AATCGATGAA GCCTGCGATG AAGGCGGCGA CGAACAGGAA      60
    92 GGCGAGCAGG TGGAAGGCGA GATCTTGCAC GGCGGGGACT CGAGAGGAGA GCTGTCAGGC     120
    94 GGGATTTTCC GCCTTGTGTC AGAGCCCGGC GCGATTTGCA AAGCCTTCTG TCGCGGTGTT     180
    96 GCTGTCCATG CAGGTGTCGA AATTGAAAAA CCGACAAAGA TTCACAGCCT TGTTCCAGCT     240
    98 CGCTGTCTTT CTGGATGGAG GCGCTCTCGC CCGCATGGTG CCGAAGAAGG GCTGTCCTTG     300
   100 CGATACGGTA GGCGGATGAC GATCTTCCTC AAACGCGACA TGGCGATGGC GCAATCCGGT     360
   102 TTGACCGGCC TTCCGCGCTC CGGTAAAAAT GAAGGATATG CGACGGCGTC CGCTTTGGCG     420
   104 GACTGAAAGA GCGTCCGGTG CGGCCGACCC AGTCAGGGGG GCATCAGCCG GTGCTGTCCA     480
   106 GATCGGCCGG GACGGATCGT CCCAGCCGGC GCTTCGTTAA GGAGAACAAC GAAGGGAGCC     540
   108 GGCCGCCGAT GCCATCGGGC CAACACTCTG CACAGACGAC GAAAGCAGGA GCCGGGCTGG     600
   110 TGCTCGGGCT CGGCTGCGAG CGTCGCACGC CGGCCGAAGA GGTGATCGCC CTTGCCGAGC     660
   112 GTGCGCTTGC CGATGCCGGT GTTGCGCCCG GCGATCTGCG GCTGGTCGCC TCGCTCGATG     720
   114 CTCGCGCCGA GGAGCCGGCG ATCCTGGCGG CCGCTCAGCA TTTCGCGGTT CCGGCCGCGT     780
   116 TCTACGATGC CGCCACGCTC GAAGCCGAAG CTTCCCGGCT CGCCAACCCG TCCGAGATCG     840
   118 TCTTTGCCTA CACGGGTTGT CATGGCGTTG CCGAGGGTGC AGCGCTCGTC GGCGCCGGTC     900
   120 GCGAAGCCGT GCTGATTGTG CAGAAGATCG TCTCCGCCCA TGCGACGGCC GCACTTGCCG     960
   122 GGCCGGCGAC CTTGCGCGCC GAAAAGCGCA TCCAGGCGGC GGAGGCTGTC TGATGCATTC    1020
   124 TTATGTTGTT GAATTGAATC AATCTTTTGC CCGGGGTTTC TCTCAAGTGG AATCCGGTTC    1080
   126 TTTAGAGAGC GCGTCAGGCG TGCCGTTGGG TGGCGCCGAA ATACAGGTGG GACAGCACGC    1140
   128 ATGATCGACG ACCTCTTTGC CGGATTGCCG GCGCTCGAAA AAGGTTCGGT CTGGCTGGTC    1200
   130 GGCGCCGGCC CCGGCGATCC CGGCCTGTTG ACGCTGCATG CGGCCAATGC GCTGCGCCAG    1260
   132 GCGGATGTGA TCGTGCATGA TGCGCTGGTC AACGAGGATT GCCTGAAGCT CGCGCGGCCG    1320
   138 GGCGCCGTGC TGGAGTTTGC GGGCAAGCGT GGCGGCAAGC CGTCGCCGAA GCAGCGCGAC    1380
   140 ATCTCGCTTC GCCTCGTCGA ACTCGCGCGC GCCGGCAACC GGGTGCTGCG CCTCAAAGGC    1440
   142 GGCGATCCCT TCGTCTTCGG TCGCGGTGGC GAGGAGGCGC TGACGCTGGT CGAACACCAG    1500
   144 GTGCCGTTCC GAATCGTGCC CGGCATCACC GCCGGTATCG GCGGGCTTGC CTATGCCGGC    1560
   146 ATTCCCGTGA CCCATCGCGA GGTCAACCAC GCGGTCACTT TCCTGACTGG CCATGATTCC    1620
   148 TCCGGCCTGG TGCCGGATCG CATCAACTGG CAGGGCATCG CCAGCGGCTC GCCTGTCATC    1680
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150 GTCATGTACA TGGCGATGAA ACATATCGGC GCGATCACCG CCAACCTCAT TGCCGGCGGC   1740
152 CGCTCGCCGG ACGAACCGGT CGCCTTCGTC TGCAACGCCG CGACGCCGCA GCAGGCGGTG   1800
154 CTGGAAACGA CGCTTGCGCG TGCAGAGGCC GATGTTGCGG CGGCAGGGCT GGAGCCGCCG   1860
156 GCGATCGTCG TCGTCGGCGA GGTGGTGCGG CTGCGCGCAG CGCTCGACTG GATCGGCGCG   1920
158 CTGGACGGGC GCAAGCTTGC CGCCGACCCG TTCGCCAATC GCATTCTCAG GAACCCGGCA   1980
160 TGAGCGGATT GCTGATTGCC GCACCCGCGT CCGGCTCCGG CAAGACGACG GTGACGCTCG   2040
162 GGCTGATGCG CGCCCTGAAG AGGCGCGGCG TGGCGATCGC GCCCGGCAAG GCGGGGCCGG   2100
164 ACTATATCGA TCCCGCTTTC CACGCGGCAG CGACCGGCGA GCCCTGCTTC AACTACGACC   2160
166 CCTGGGCGAT GCGCCCGGAA CTGCTGCTTG CCAATGCGTC GCATGTGGCC TCCGGCGGGC   2220
168 GCACATTGAT CGTCGAGGCG ATGATGGGAC TGCATGACGG TGCTGCCGAC GGCTCGGGAA   2280
170 CGCCAGCGGA CCTCGCCGCG ACGCTGAACC TTGCGGTCAT TCTGGTGGTC GATTGCGCCC   2340
172 GCATGTCCCA GTCGGTTGCC GCCCTCGTGC GCGGCTATGC GGATCATCGC GACGATATCC   2400
174 GGGTGGTTGG CGTCATCCTC AACAAGGTCG GCAGCGATCG GCATGAAATG ATGCTGCGCG   2460
176 ATGCGCTCGG CAAGGTGCGC ATGCCTGTCT TCGGCGTGCT CCGGCAGGAC AGCGCATTGC   2520
178 AACTGCCGGA GCGCCATCTC GGGCTCGTGC AGGCGGGCGA ACACTCAGCG CTTGAGGGCT   2580
180 TCATCGAGGC GGCGGCCGCG CGGGTCGAGG CTGCCTGCGA TCTCGACGCC ATCCGCCTGA   2640
182 TCGCGACGAT TTTCCCGCAG GTGCCCGCGG CGGCCGATGC CGAGCGTTTG CGGCCGCTCG   2700
184 GTCAGCGCAT CGCGGTCGCG CGCGATATCG CCTTTGCCTT CTGCTACGAG CACCTGCTTT   2760
186 ACGGCTGGCG GCAAGGCGGC GCGGAGATTT CCTTCTTCTC GCCGCTCGCC GACGAGGGGC   2820
188 CGGATGCGGC AGCCGATGCC GTCTATCTTC CGGGGGGTTA TCCGGAGCTG CATGCGGGGC   2880
190 AGCTGAGCGC CGCCGCCCGA TTCCGTTCCG GCATGCATTC CGCGGCGGAA CGCGGCGCCC   2940
192 GCATCTTCGG CGAGTGCGGC GGCTATATGG TGCTCGGCGA AGGGCTTGTC GCTGCCGATG   3000
194 GCACACGCTA CGACATGCTC GGCCTGCTGC CGCTCGTAAC CAGTTTTGCC GAGCGCAGGC   3060
196 GGCACCTCGG CTATCGCCGC GTCGTGCCTG TCGACAACGC CTTCTTCGAT GGACCCATGA   3120
198 CGGCGCACGA ATTCCACTAT GCGACCATCG TCGCCGAAGG GGCGGCCGAT CGGCTGTTTG   3180
200 CGGTCAGCGA CGCCGCCGGC GAGGATCTCG GCCAGGCGGG CCTCCGGCGC GGCCCTGTCG   3240
206 CCGGTTCCTT CATGCATCTG ATCGACGTCG CAGGTGCTGC ATGAGCGCAC CGATCGTTCA   3300
208 TGGTGGCGGC ATCACCGAGG CCGCAGCGCG CTATGGCGGC CGGCCTGAAG ACTGGCTCGA   3360
210 TCTGTCGACC GGCATCAATC CATGCCCCGT CGCCTTGCCC GCGGTCCCTG AGCGCGCCTG   3420
212 GCACCGGCTG CCGGATCGGC AGACGGTAGA TGATGCGCGG AGCGCCGCCG CCGACTACTA   3480
214 CCGCACCAAC GGCGTGCTGC CTTTGCCGGT GCCGGGCACC CAGTCGGTGA TCCAGCTCCT   3540
216 GCCACGTCTT GCTCCGGCCA ACAGGCACGT CGCGATTTTC GGGCCGACCT ATGGCGAGTA   3600
218 TGCCCGCGTG CTTGAAGCGG CCGGCTTTGC TGTCGATCGC GTCGCGGATG CCGACGCGCT   3660
220 CACGGCCGAA CATGGGCTTG TCATCGTCGT CAACCCCAAC AACCCGACCG GCCGCGCCTT   3720
222 GGCGCCGGCG GAGCTTCTGG CGATCGCCGC AAGGCAGAAG GCGAGCGGCG GACTGCTGCT   3780
224 GGTCGATGAG GCCTTCGGCG ATCTTGAGCC GCAACTGAGT GTCGCTGGTC ACGCGTCAGG   3840
226 GCAAGGCAAC CTCATCGTCT TCCGCTCCTT CGGCAAGTTC TTCGGCCTTG CGGGCCTGCG   3900
228 CCTCGGCTTC GTCGTTGCGA CCGAGCCAGT GCTTGCATCC TTTGCCGATT GGCTCGGTCC   3960
230 CTGGGCTGTC TCCGGCCCGG CGTTGACGAT CTCGAAAGCG CTGATGCAGG GCGATACGAA   4020
232 GGCGATCGCG GCGGGCATCC TCGAGCGTCG CGCCGGCCTC GATGCGGCTC TCGATGGGGC   4080
234 AGGGCTCAAC CGTATCGGCG GCACGGGGCT ATTCGTGCTG GTCGAGCATC CCAGGGCAGC   4140
236 TCTGCTGCAG GAGCGGCTCT GCGAGGCCCA TATTCTCACG CGCAAGTTCG ACTATGCCCC   4200
238 GACCTGGCTC AGGGTCGGTC TTGCGCCTGA CGCGGCTGGT GACCGACGGC TGGCGGACGC   4260
240 GCTTGCCCGC ATGGAGCTCT GAGGTGTCGG AGACGATCCT GCTCATTCTC GCGCTGGCGC   4320
242 TGGTGATCGA CCGCGTTGTC GGCGATCCGG ACTGGCTCTG GCGCGCGTG CCGCATCCGG   4380
244 TCGTGTTTTT CGGCAAGGCC ATCGGCTTTT TCGACGCGCG CTGAACCGG GAGGACCTCG   4440
246 AGGATAGCGC GCGCAAATTT CGTGGCGTCG TCGCGATCCT TTTGTTGCTT GGCATCAGCG   4500
248 CCTGGTTCGG CCATCTGCTG CATCGCCTGT TCGCCGTCCT CGGACCGCTC GGCTTTCTGC   4560
250 TCGAGGCGGT TCTGGTCGCG GTCTTCCTGG CACAGAAGAG CCTCGCCGAT CACGTGCGTC   4620
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```
252 GCGTGGCCGG GGGCTTGCGA CAGGGCGGGC TGGAAGGCGG GCGTGCCGCC GTGTCGATGA  4680
254 TCGTTGGTCG CGATCCAAAG ACGCTCGACG AGCCGGCGGT CTGCCGTGCC GCGATCGAAA  4740
256 GCCTTGCCGA GAATTTCTCC GACGGCGTCG TGGCGCCGGC CTTCTGGTAC GCGGTTGCCG  4800
258 GCCTGCCGGG GCTTCTTGCC TACAAGATGC TGAACACCGC CGATTCGATG ATCGGCCACA  4860
260 AGTCGCCGAA ATATCTGCAC TTCGGCTGGG CCTCGGCCCG ACTCGACGAT CTCGCCAACC  4920
262 TGCCGGCAGC GAGGCTCTCG ATCCTTTTGA TCTCAGCCGG TGCGCTGATC CATCGTGGCG  4980
264 CCAGCGCCGC CAAGGATGCG CTGACCGTGG CCCTTCGCGA CCATGGCCTG CACCGCTCGC  5040
266 CGAACTCCGG CTGGCCGGAA GCGGCCATGG CCGGCGCGCT CGATCTGCAG CTTGCCGGTC  5100
268 CGCGGATCTA TGGCGGCGTC AAGGTCAGCG AACCTATGAT CAACGGTCCG GGCCGAGCGG  5160
274 TTGCAACAAG CGAAGACATC GACGCCGGTA TTGCTGTATT TTATGGCGCC TGTACGGTCA  5220
276 TGGCCGGGTT TGTTCTTGCA ATCGCAATGA TTTGATCGCG GAAGTTGACC TTCGCATTAA  5280
278 GACTCTGCTT TCCATATGTA TTAAGATCGT ATCATATTCG ATCAGTTATT CTCCTGGAAC  5340
280 GTTTGGTTCC ACCGGTACGT GTTCGTCTTC CCGGAGAGAG AAGCATGCGC AAAAGCTT    5398
283 (2) INFORMATION FOR SEQ ID NO: 2:
285      (i) SEQUENCE CHARACTERISTICS:
286          (A) LENGTH: 8753 base pairs
287          (B) TYPE: Nucleic Acid
288          (C) STRANDEDNESS: Double
289          (D) TOPOLOGY: Unknown
291     (ii) MOLECULE TYPE: cDNA
293    (iii) HYPOTHETICAL: No
```
C--> 295   (vi) ORIGINAL SOURCE:
```
296          (A) ORGANISM: Pseudomonas denitrificans
297          (B) STRAIN:
298          (C) INDIVIDUAL ISOLATE:
299          (D) DEVELOPMENTAL STAGE:
300          (E) HAPLOTYPE:
301          (F) TISSUE TYPE:
302          (G) CELL TYPE:
303          (H) CELL LINE:
304          (I) ORGANELLE:
306     (ix) FEATURE:
307          (A) NAME/KEY:
308          (B) LOCATION:
309          (C) IDENTIFICATION METHOD:
310          (D) OTHER INFORMATION: Nucleotide Sequence of the 5' to 3'
311 strand from the 8753 bp EcoRII fragment of Pseudomonas
312 denitrificans
315     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
318 GAATTCGCCA GCGCCTACAT GGCTGACCTC AAGCAGTTCC TCGTGGCCCA GAAGAACGAG    60
320 GGCCGGCAGA TTTTCCCTCG CGGGCCTGAG TATTTTCGCG CGCTCGACCT GACGCCGCTC   120
322 GACAAGGTGC GCGTGGTCAT TCTCGGCCAG GATCCCTATC ACGGTGACGG CCAGCGGCAT   180
324 GGGCTCTGCT TCAGCGTTCG CCCCGGTGTC CGGACGCCGC CGTCGCTGGT CAACATCTAC   240
326 AAGGAACTGA ATACCGATCT CGGTATTCCG CCGGCGCGTC ACGGTTTTCT CGAAAGCTGG   300
328 GCAAGGCAGG GCGTGCTGCT TTTGAACAGC GTGCTGACGG TAGAGCGCGG GAACGTGCGT   360
330 CACACCAGGG TCACGGTTGG GAAAAGTTCA CGGATGCGAT CATCCGTGCG GTCAACGAGG   420
332 CCGAGCATCC CGTCGTCTTC ATGCTTTGGG GCTCCTATGC GCAGAAGAAG GCGGCCTTCG   480
334 TCGACCGCTC GCGCCATCTT GTCCTGAGGG CACCACATCC GTCGCCGCTC TCAGCCCATT   540
336 CCGGCTTTCT CGGCTGCCGG CATTTTTCCC AGGCCAATGC CTTCCTCGAA AGCAAAGGCT   600
```

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342 TCGATCCGAT CGACTGGCGG CTGCCGGAAA ATCCGGCTGC GGACATCAAC TGAAGGCTTG   660
344 GCGCGAATGA CGGCTTTGTC GTCGCCCTGA GGTCTTGCCT TGGCGGCGGC GATCCGCCTA   720
346 AGACGCCCGA ACGAAATGGC GGAGGCGGGC ATGCGCAAAA TTCTGATCAT CGGCATCGGT   780
348 TCGGGCAATC CCGAACACAT GACCGTGCAG GCGATCAACG CGCTGAACTG CGCCGACGTG   840
350 CTCTTTATCC CGACCAAGGG AGCGAAGAAG ACCGAGCTTG CCGAAGTGCG CCGCGACATC   900
352 TGCGCCCGCT ACGTCACGCG CAAGGACAGC CGCACCGTCG AGTTCGCGGT GCCCGTGCGG   960
354 CGCACCGAAG GCGTCAGCTA TGACGGCAGC GTCGATGACT GGCACGCCCA GATCGCTGGG  1020
356 ATTTACGAAG CGCTTCTATC GAAGGAGTTG GGCGAAGAGG GAACTGGCGC GTTTCTCGTC  1080
358 TGGGGCGACC CGATGCTCTA TGACAGCACC ATTCGCATCG TCGAGCGGGT CAAGGCACGC  1140
360 GGTGAGGTCG CCTTCGCCTA CGACGTCATT CCCGGGATCA CCAGTCTGCA GGCGCTTTGC  1200
362 GCCAGCCACC GCATTCCGCT GAACCTCGTC GGCAAGCCGG TGGAGATCAC CACGGGGCGT  1260
364 CGGCTGCACG AAAGCTTTCC CGAGAAGAGC CAGACCTCGG TCGTCATGCT CGATGGCGAA  1320
366 CAGGCGTTTC AGCGGGTCGA GGACCCGGAG GCGGAGATCT ATTGGGGCGC CTATCTCGGC  1380
368 ACGCGGGATG AGATCGTCAT TTCCGGCCGC GTGGCTGAGG TGAAGGACCG GATCCTTGAA  1440
370 ACGCGGGCGG CGGCGCGCGC GAAGATGGGA TGGATCATGG ACATCTATCT CCTGCGCAAG  1500
372 GGCGCCGACT TCGACGAGTG ACGGGGAGGG CCGATCTGCG TCGTGTTTGA TCTCACTCAA  1560
374 GGTTTGCGGC TGTGTTATAG CGTCTTAAGA GGCTTCTTCA GGGAGGAGAA CCTCAAGTGA  1620
376 TGACGGATTT GATGACCAGC TGCGCCCTTC CATTGACCGG AGATGCCGGC ACCGTCGCTT  1680
378 CGATGCGCCG CGGCGCCTGC CCGTCCTTGG CAGAGCCGAT GCAGACCGGC GACGGCCTGC  1740
380 TCGTGAGGGT GAGGCCAACG GATGACAGCC TGACGCTGCC GAAGGTCATT GCCCTTGCCA  1800
382 CGGCTGCCGA GCGCTTCGGC AATGGCATCA TCGAGATTAC CGCGCGCGGA AACCTGCAGC  1860
384 TTCGCGGCCT GAGCGCGGCT TCGGTGCCAA GGCTGGCGCA GGCGATCGGC GATGCGGAGA  1920
386 TCGCCATTGC CGAGGGGCTC GCGATCGAGG TGCCGCCCCT GGCCGGCATC GACCCGGACG  1980
388 AGATCGCCGA TCCGCGGCCG ATTGCCACTG AGCTTCGTGA AGCGTTGGAT GTGCGCCAGG  2040
390 TGCCGTTGAA GCTTGCACCC AAATTATCCG TCGTCATCGA TAGCGGTGGC CGGTTTGGTC  2100
392 TCGGCGCTGT CGTCGCCGAC ATTCGCCTTC AGGCGGTTTC GACTGTCGCG GGGGTGGCCT  2160
394 GGGTGCTGTC GCTTGGCGGC ACGTCAACGA AGGCATCGAG CGTCGGGACG TTGGCCGGCA  2220
396 ACGCGGTCGT GCCGGCCCTG ATCACCATTC TCGAGAAACT GGCGAGCCTG GGCACGACGA  2280
398 TGCGCGGGCG CGATCTGGAC CCGTCGGAAA TCCGCGCGCT CTGTCGCTGT GAGACATCGT  2340
400 CCGAACGCCC GGCCGCTCCG CGTTCGGCCG CAATACCCGG CATTCATGCG CTGGGTAACG  2400
402 CCGACACCGT TCTCGGCCTC GGTCTGGCCT TTGCTCAGGT GGAGGCCGCC GCGCTGGCAT  2460
404 CCTACCTGCA TCAGGTCCAG GCGCTTGGCG CCAATGCGAT CCGGCTTGCG CCCGGGCACG  2520
410 CCTTCTTCGT CCTCGGCCTT TGCCCCGAGA CCGCGGCTGT GGCGCAGAGC CTGGCAGCGT  2580
412 CACACGGTTT TCGCATTGCC GAGCAGGATC CGCGCAATGC GATCGCCACC TGCGCCGGCA  2640
414 GCAAGGGTTG CGCCTCGGCG TGGATGGAAA CCAAGGGCAT GGCCGAGCGC CTCGTCGAGA  2700
416 CGGCGCCGGA ATTGCTCGAC GGGTCGCTCA CCGTGCATCT CTCCGGCTGC GCCAAGGGCT  2760
418 GCGCCCGGCC GAAGCCGTCC GAACTGACGC TTGTCGGTGC GCCATCAGGA TACGGGCTTG  2820
420 TCGTAAATGG GGCTGCCAAT GGCTTGCCAA GCGCCTACAC CGATGAGAAT GGAATGGGAT  2880
422 CCGCCCTTGC CCGGCTCGGC CGGCTGGTGC GGCAAAACAA AGACGCTGGC GAATCGGCGC  2940
424 AGTCCTGTCT TACACGGCTC GGAGCTGCGC GCGTCTCGGC AGCGTTCGAA CAGGGATAGA  3000
426 CATGCCTGAG TATGATTACA TTCGCGATGG CAACGCCATC TACGAGCGTT CCTTCGCCAT  3060
428 CATCCGCGCC GAGGCCGATC TGTCGCGCTT CTCCAAGAG GAAGCGGATC TGGCTGTGCG  3120
430 CATGGTGCAC GCCTGCGGTT CCGTCGAGGC GACCAGGCAG TTCGTGTTTT CTCCCGATTT  3180
432 CGTAAGCTCG GCCCGTGCGG CGCTGAAAGC CGGTGCGCCG ATCCTCTGCG ATGCCGAGAT  3240
434 GGTTGCGCAC GGTGTCACCC GCGCCCGTCT GCCGGCCGGC AACGAGGTGA TCTGCACGCT  3300
436 GCGCGATCCT CGCACGCCCG CACTTGCGGC CGAGATCGGC AACACCCGCT CCGCCGCAGC  3360
438 CCTGAAGCTC TGGAGCGAGC GGCTGGCCGG TTCGGTGGTC GCGATCGGCA ACGCGCCGAC  3420
440 GGCGTTGTTC TTCCTCTTGG AAATGCTGCG CGACGGCGCG CCGAAGCCGG CGGCAATCCT  3480
442 CGGCATGCCC GTCGGTTTCG TCGGTGCGGC GGAATCGAAG GATGCGCTGG CCGAGAACTC  3540
```

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Input Set : **N:\Crf3\RULE60\10724598.raw.txt**
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Invalid Line Length:
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 283
Seq#:2; Line(s) 631
Seq#:3; Line(s) 699
Seq#:4; Line(s) 774
Seq#:5; Line(s) 856
Seq#:6; Line(s) 952
Seq#:7; Line(s) 1023
Seq#:8; Line(s) 1105
Seq#:9; Line(s) 1177
Seq#:10; Line(s) 1258
Seq#:11; Line(s) 1311
Seq#:12; Line(s) 1370
Seq#:13; Line(s) 1436
Seq#:14; Line(s) 1509
Seq#:15; Line(s) 1593
Seq#:16; Line(s) 1694
Seq#:17; Line(s) 1750
Seq#:18; Line(s) 1815
Seq#:19; Line(s) 1881
Seq#:20; Line(s) 1949
Seq#:21; Line(s) 2012
Seq#:22; Line(s) 2081
Seq#:23; Line(s) 2147
Seq#:24; Line(s) 2221
Seq#:25; Line(s) 2305
Seq#:26; Line(s) 2396
Seq#:27; Line(s) 2460
Seq#:28; Line(s) 2531
Seq#:29; Line(s) 2739
Seq#:30; Line(s) 2918
Seq#:31; Line(s) 2991
Seq#:32; Line(s) 3071
Seq#:33; Line(s) 3173
Seq#:34; Line(s) 3298
Seq#:35; Line(s) 3349
Seq#:36; Line(s) 3399
Seq#:37; Line(s) 3470
Seq#:38; Line(s) 3552
Seq#:39; Line(s) 3621
Seq#:40; Line(s) 3698
Seq#:41; Line(s) 4207
Seq#:42; Line(s) 4295
Seq#:43; Line(s) 4401

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Input Set : **N:\Crf3\RULE60\10724598.raw.txt**
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Seq#:44; Line(s) 4454
Seq#:45; Line(s) 4515
Seq#:46; Line(s) 4590
Seq#:47; Line(s) 4679
Seq#:48; Line(s) 4848
Seq#:49; Line(s) 5058
Seq#:50; Line(s) 5118
Seq#:51; Line(s) 5185
Seq#:52; Line(s) 5257
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L:31 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:32 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:38 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1)(vii)
L:62 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:295 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:643 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:711 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:786 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:868 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:964 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1035 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1117 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1189 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1270 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1323 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1382 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1448 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1521 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1605 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1706 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1766 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1832 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1897 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:1965 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2024 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2093 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2159 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2237 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2316 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2408 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2472 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2543 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2751 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:2930 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3002 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3083 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3190 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3310 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3361 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3410 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3482 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3564 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3633 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:3710 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4219 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4307 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4413 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4471 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]

VERIFICATION SUMMARY   DATE: 09/28/2005
PATENT APPLICATION: US/10/724,598   TIME: 10:47:27

Input Set : **N:\Crf3\RULE60\10724598.raw.txt**
Output Set: **N:\CRF4\09282005\J724598.raw**

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L:4532 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4607 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4691 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:4860 M:220 C: Keyword misspelled or invalid format, [(vi) ORIGINAL SOURCE:]
L:5467 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=56
L:5494 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=57
L:5517 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=58
L:5540 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=59
L:5567 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=60
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